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COSMETICS
[Keshouryou]

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SPECIFICATION

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1. Title of the Invention

Cosmetics

2. Claims

(1) A cosmetic characterized by containing pressure-collapsible flexible resin capsules in which water and/or a moisture-retaining ingredient is contained and the shells of which consist of a resin that is insoluble to said water and/or moisture-retaining ingredient and that contains inorganic fine powder.

(2) A cosmetic of Claim (1) in which the moisture-retaining ingredient consists of one or more types selected from among polyhydric alcohols, sugars or sugar alcohols, sugar derivatives, amino acids, water-soluble vitamins, polypeptides, and organic salts.

(3) A cosmetic of Claim (1) in which the inorganic powder consists of one or more types selected from among kaolin clay, calcined clay, talc, mica, sericite, bentonite, organic modified bentonite, white carbon, ultrafine particulates of anhydrous silica, ultrafine particulates of anhydrous aluminum, titanium oxide, ultrafine calcium carbonate, dolomite powder, sedimentary calcium sulfate, and sedimentary barium sulfate.

(4) A cosmetic of Claim (1) in which the resin ingredient is a homopolymer or copolymer insoluble to water and/or the moisture-retaining ingredient and is obtained by polymerizing monomers that contain a monomer having α,β-ethylenic unsaturated bonds as the main constituent.

* Numbers in the margin indicate pagination in the foreign text.

(5) A cosmetic of Claim (1) containing pressure-collapsible flexible resin capsules that are obtained by emulsifying water and/or a moisture-retaining ingredient in a medium that does not dissolve in said water or moisture-retaining ingredient under the presence of inorganic fine powder, by polymerizing the monomer components in said emulsion system, and by filtering and drying it.

(6) A cosmetic of Claim (5) in which the medium consists of one or more types selected from among aliphatic hydrocarbons, aromatic hydrocarbons, [illegible] hydrocarbons, halogen-containing hydrocarbons, and silicon oil.

(7) A cosmetic of Claim (5) obtained by allowing polymerization to occur at a temperature of 40 ~ 90°C.

(8) A cosmetic of Claim (1) that is a makeup cosmetic.

3. Detailed Explanation of the Invention

[Field of Industrial Application] /122

The present invention pertains to cosmetics that are stable and that give a novel sensation, more specifically to cosmetics combined with pressure-collapsible flexible resin capsules that contain water and/or a moisture-retaining ingredient and that are equipped with shells consisting of a resin containing inorganic fine powder insoluble to said water and/or moisture-retaining ingredient, and this makes it possible to stably combine these ingredients together. As a result, it becomes possible to realize an unconventional, novel feel with excellent moisturizing effect, affinity to the skin, and long-lasting effect.

[Related Art]

With recent advances in dermatology research, consumers are becoming increasingly aware of the moisture balance of the skin in response to cosmetics. As the balance between moisture, NMF, and natural oil is important to the skin, the balance between moisture, a moisture-retaining ingredient, and oil are also essential in studying the base agents for cosmetics, and the combination of water and/or said moisture-retaining ingredient with makeup products has been examined.

[Problems that the Invention is to Solve]

However, there remained many problems that needed to be solved before moisture and/or a moisture-retaining ingredient could be combined stably with cosmetics and makeup products.

For example, moisture and/or a moisture-retaining ingredient is currently combined directly with oil-based products or powder-type products. However, in oil-based products, for example, there is a poor affinity between moisture or the moisture-retaining ingredient and the oil, and they are unstable and become separated and/or cause perspiration with time. Moreover, the levels of viscosity of their lake bases increase substantially during the manufacturing process, deteriorating the filling and molding properties. For this reason, some marketed lipstick products are combined with [illegible]. However, because of the above reasons, it is difficult to obtain articles with favorable stability, and the amounts, if any, of water combined with them are only little. Therefore, there was only a little difference between their feel of usage and that of a conventional [illegible] oil-based product.

Moreover, consumers with dry or dry and oily skins in particular desire a moist feel from powder products, and it has been attempted to simply combine moisture and/or a moisture-retaining ingredient with a formulation system. However, due to similar reasons, there are many restrictions in that it is difficult to obtain a stable base agent that prevents the volatilization of moisture or the moisture-retaining ingredient and in that it requires tightly sealed containers to be developed. Therefore, in reality, their commercialization is difficult to achieve today. For this reason, base agents of powder products have conventionally been provided with increased amounts of oil content so as to provide moist feel to the skin, but the emollient effects provided by oil contents are limited and hardly satisfactory.

Incidentally, there are many emulsion-type cosmetics in the market that are combined moisture or a moisture-retaining ingredient and that are proclaimed to have conditioning effects. However, because of the increased amount of the combined moisture and/or moisture-retaining ingredient, they have problems in terms of usage in that the light feel of usage becomes lost with sticky feel occurring after application and also have a problem in that separation occurs as a result of deteriorated stability. Therefore, the combined amount becomes naturally limited. Moreover, in cases of emulsion-type products, selectable [illegible] states are limited to fluid emulsion states or creamy states that are only slightly fluid, and they both have shortcomings in that they restrict the container shapes and in that they inevitably have poor [illegible].

As a result of diligent studies conducted by the inventors in light of the above-mentioned conventional techniques, they completed the present invention based on the discovery that these problems can be solved by combining cosmetics, specifically makeup cosmetics, with pressure-collapsible flexible resin capsules that contain water and/or a moisture-retaining ingredient and that are equipped with shells (capsule films) consisting of a resin containing inorganic fine powder insoluble to said water and/or moisture-retaining ingredient.

[Means for Solving the Problems]

In other words, the invention is related to a cosmetic which comprises pressure-collapsible flexible resin capsules containing water and/or a moisture-retaining ingredient and in which large quantities of these ingredients are therefore combined stably. As a result of the contents being released from the capsules that collapsed during the application of the cosmetic, it can provide a moist feel unlike that which is obtained from oil. Therefore, the cosmetic has a novel feel with excellent moisturizing properties and conditioning properties for skin.

In the following, the structure of the invention will be described in detail.

The pressure-collapsible flexible resin capsules of the invention are resin capsules designed in a manner such that their capsule films become collapsed by the pressures applied by fingers or a sponge /123 during a makeup application (to the skin) so that the contained water and/or moisture-retaining content becomes released.

The range of the pressure (breaking) resistance of pressure-collapsible flexible resin capsules applied to the invention is specified as 1 ~ 50kg/cm^2. A pressure resistance that exceeds 50kg/cm^2 is not favorable since it will not allow the capsules to be collapsed during a cosmetic application. Moreover, a pressure resistance that is less than 1kg/cm^2 is not appropriate since it may cause the capsules to be ruptured by a mixer/agitator or impacts during a manufacturing process for combining the capsules with a cosmetic.

The amount of water and/or moisture-retaining ingredient contained inside the pressure-collapsible flexible resin capsules should be 10 ~ 95 weight percents (hereafter referred to as %), preferably 50 ~ 95%, with respect to the total weight of the capsules including the inorganic fine powder. If the amount of content is less than 10%, the effects of the contained material are difficult to achieve, and if the content exceeds 95%, the strength of the capsule shells (capsule films) decreases, leading to the volatilization or outflow of the contained material over time.

Pressure-collapsible flexible resin capsules applied to the invention are generally spherical, and the diameters of the grains should preferably be about 1 ~ 100μm. If the grain diameters are less than 1μm, it becomes difficult for the capsules to collapse and the objective, which is to release the content, will therefore not be fulfilled during the application of the cosmetic. On the other hand, it should not exceed 100μm since it would cause an unpleasant, coarse sensation on the skin.

The resin composition of the capsule films of the pressure-collapsible flexible resin capsules must be insoluble to water

and/or the content and must also have sufficient impermeability. Therefore, the resin material of the shells utilized in this invention is one or more types of homopolymers or copolymers selected from among: monomers containing α,β-ethylenic unsaturated bonds such as acrylic ester, methacrylic ester, ethyleneglycol dimethacrylate, acrylonitrile, methacrylonitrile, itaconic acid ester, ethacrylic acid ester, crotonic acid ester, maleic acid ester, etc.; and vinyl monomers such as vinyl acetate, vinyl chloride, vinylidene chloride, styrene, divinylbenzene, etc. However, the invention is not necessarily limited to these substances as long as the above-mentioned conditions are satisfied. Moreover, at the time of the copolymerization, it is permissible to partially combine a water-soluble monomer agent, such as acrylic acid, methacrylic acid, maleic acid, itaconic acid, crotonic acid, etc. or [illegible] thereof. Note that the amount should be in a range that allows the formed shells to be insoluble to the content.

Next, the ingredient contained in the pressure-collapsible flexible resin capsules of the invention is water and a moisture-retaining ingredient. Examples of the moisture-retaining ingredient are: alcohols such as ethanol, propanol, etc.; polyhydric alcohols such as ethyleneglycol, propyleneglycol, 1,3-butyleneglycol, polyethyleneglycol, glycerin, etc.; sugars or sugar alcohols such as glucose, galactose, fructose, maltose, sorbitol, mannitol, etc.; sugar derivatives such as polyoxyethylene methyl glucoside; polysaccharides such as dextrin, hyaluronan, bio-hyaluronan, chondroitin sulfate, heparin, alginic acid, chitin, chitosan, carboxymethylcellulose, xanthan gum, carrageenan, etc.;

salts of polysaccharides; amino-acid salts such as glutamic acid, arginine, sodium PCA, etc.; poripeputanoidorui [as transliterated] such as collagen; organic salts such as sodium citrate, sodium lactate, etc.; and vitamins such as vitamin B[illegible], vitamin B[illegible], vitamin C, pantothenic acid, etc. However, the ingredient is not limited to these and is only required to be soluble to water, alcohol, or polyhydric alcohol and to exhibit skin moisturizing properties, which are the target of the invention.

The inorganic fine powder of the invention is present mainly at the boundary between the inclusion and the shell-forming resin ingredient while contained within the resin. It contributes to suppressing the volatilization and leakage of the inclusion and to increasing the shell strength. Examples of the inorganic powder include kaolin clay, calcined clay, mica, sericite, talc, bentonite, organic modified bentonite, white carbon, ultrafine particulates of anhydrous silica, ultrafine particulates of anhydrous aluminum, ultrafine particulates of titanium oxide, titanium oxide, ultrafine calcium carbonate, dolomite powder, sedimentary barium sulfate, etc., and organic modified bentonite is preferred in particular.

The grain diameter of the inorganic fine powder is selected /124 appropriately based on the size of the pressure-collapsible flexible resin capsules to be attained, and it should be 1/2 or less of the capsule size, preferably about 0.01μm ~ 2μm, more preferably 0.01μm ~ 0.2μm. If the size of the inorganic fine powder is larger than 1/2 of the diameters of the capsules, the generated grains will [illegible] and it will be difficult to make them uniform during the manufacturing process.

On the other hand, if the size is less than 0.01μm, the inorganic powder cannot be contained evenly inside the shells due to its own [illegible].

The amount of the inorganic fine grains to be combined depends on their grain diameters and the diameters of the pressure-collapsible flexible resin capsules, but favorable results can be obtained when they are about 0.5 ~ 10%, about 1 ~ 7% in particular, with respect to the total amount of the produced pressure-collapsible flexible resin capsules.

In addition to the above-described pressure-collapsible flexible resin capsules, other ingredients generally utilized in cosmetics can be suitably combined with a cosmetic of the invention as necessary.

Examples include: an inorganic powder such as talc, kaolin, sericite, white mica, brown mica, red mica, black mica, lithia mica, vermiculite, magnesium carbonate, calcium carbonate, diatomite, magnesium silicate, calcium silicate, aluminum silicate, barium silicate, barium [illegible], strontium silicate, metal tungstate, silica, hydroxyapatite, zeolite, boron nitride, or ceramics powder; an organic powder such as nylon powder, polyethylene powder, benzoguanamine powder, tetrafluoroethylene powder, styrene-divinylbenzene pinhole polymer powder, or microcrystalline cellulose; an inorganic white pigment such as titanium oxide or zinc oxide; an inorganic red pigment such as iron oxide (iron oxide red) or iron titanate; an inorganic brown pigment such as γ-iron oxide; an inorganic yellow pigment such as iron oxide yellow, or loess; an inorganic black pigment such as iron oxide black or carbon black; an inorganic purple pigment such as mango-violet, or cobalt violet; an inorganic green pigment

such as chromium oxide, chromium hydroxide, or cobalt titanate; an inorganic blue pigment such as ultramarine or cobalt blue; a pearl pigment such as titanium oxide-coated bismuth oxychloride, bismuth oxychloride, titanium oxide-coated talc, pearlessence, or colored titanium oxide-coated mica; a clay mineral such as Benton, a metal powder pigment such as aluminum powder or copper powder; an organic pigment such as Red #201, Red #202, Red #204, Red #205, Red #220, Red #226, Red #228, Red #405, Orange #203, Orange #204, Yellow #205, Yellow #401, or blue #404; a zirconium-, barium- or aluminum-derived organic lake pigment such as Red #3, Red #104, Red #106, Red #227, Red #230, Red #401, Red #505, Orange #205, Yellow #4, Yellow #5, Yellow #202, Yellow #203, Green #3, or Blue #1; a natural coloring matter such as chlorophyll or β-carotene; a hydrocarbon such as squalane, liquid paraffin, Vaseline, microcrystalline wax, ozokerite, ceresin, myristic acid, palmitic acid, stearic acid, oleic acid, isostearic acid, cetyl alcohol, hexadecyl alcohol, oleil alcohol, cetyl 2-ethylhexanoate, 2-ethylhexyl palmitate, 2-octyldodecyl myristate, neopentylglycol di-2-ethylhexanate, glycerol tri-2-ethylhexanoate, 2-octyldodecyl oleate, isopropyl myristate, glycerol triisostearate, triglycerol coconut oil fatty acid, olive oil, avocado oil, beeswax, myristyl myristate, mink oil, lanolin, etc.; an oil-based ingredient such as silicon oil, higher fatty acid, fat/oil, ester, higher alcohol, or wax; a resin such as an alkyd resin or a urea resin; a plasticizer such as camphor, citric acid, or acetyltributyl; an UV absorber; an antioxidant; an antiseptic; a surfactant; a moisture-retaining agent; perfume; and a thickener.

From among them, it is permissible to suitably subject the powder to a hydrophobing treatment in accordance with the purpose of the cosmetic. The method of the hydrophobing treatment mentioned here is carried out by means of one of the following examples: a silicon compound such as methylhydrogen polysiloxane, high-viscosity silicon oil, a silicon resin, etc.; a surfactant such as an anionic surfactant or a cationic /125 surfactant; a polymer compound such as nylon, polymethylmethacrylate, polyethylene, Teflon, polyamino acid, etc.; and partial ester or complete ester of polyhydric alcohol. However, the invention is not confined to these methods, and any method that can be generally applied to a hydrophobing treatment of powder can be utilized.

Pressure-collapsible flexible resin capsules of the invention are obtained by emulsifying water and/or a moisture-retaining substance in a complex that does not blend with them and by subjecting a shell-forming monomer ingredient to interfacial polymerization or in-situ polymerization in the above-mentioned emulsion under the presence of an inorganic fine powder insoluble to either of these inclusion ingredient(s) or complex.

Although it is permissible to emulsify the complex with water or the substance insoluble to water by means of the actions of [illegible] or ultrasonic waves, microcapsules having a targeted grain diameter are usually obtained by using a surfactant together with mechanical emulsification. Examples of favorable surfactants are higher fatty acid sorbitan esters, higher fatty acid glycerin esters, higher fatty acid pentaerythritol esters, higher fatty acid polyglycerin esters, higher

fatty acid sugar esters, higher fatty acid polyalkylene glycol esters, polyoxyalkylene sorbitan higher fatty acid esters, polyoxyalkylene glycerin higher fatty acid esters, polyalkyleneglycol fatty acid esters, polyoxyalkylene alkylethers, polyoxyalkylene alkylphenylethers, etc. These may be used in combination with one another or may be combined with yet other surfactants, one example of which is an anionic surfactant such as an alkylarylsulfonate or an alkylphosphate. Preferred surfactants are: a sorbitan fatty acid ester, such as sorbitan monolaurate, sorbitan monooleate, sorbitan monostearate, or sorbitan trilaurate; a polyglyceride, such as polyglycerin monolaurate; a polyoxyethylene sorbitan fatty acid ester, such as polyoxyethylene sorbitan monolaurate, polyoxyethylene sorbitan monostearate, or polyoxyethylene sorbitan monooleate; and a polyalkyleneglycol fatty acid ester, such as PEG(200) oleate or PEG(400) stearate. In this manner, particularly favorable results are obtained when a higher fatty acid ester of a polyol is utilized. A surfactant is suitably selected based on the types of the water and/or water-soluble substance and of the complex which will be turned into microcapsules, the targeted grain diameter of the pressure-collapsible flexible resin capsules, and the type of the monomer.

The used amount of a surfactant should preferably be 0.5 ~ 5 weight% of the produced microcapsules (inclusion + monomer).

As for the solvent utilized to obtain microcapsules, any solvent can be utilized as long as it does not [illegible] the water and/or moisture-retaining ingredient or dissolve the shells formed as a result of the monomer being polymerized. Examples of a preferred solvent include:

an aliphatic hydrocarbon, such as pentane, hexane, heptane, octane, isooctane, decane, or petroleum ether; a halogenated hydrocarbon, such as carbon tetrachloride, methylene chloride, perclene, or 1,1,2-trichloroethane; other petroleum fractions; silicon oil; liquid paraffin; an ester; an ether; and a ketone. These solvents may be utilized alone or in combination. For example, it is difficult to create a stable W/O emulsion from a solvent containing a large amount of straight-chain aliphatic hydrocarbons, but by combining it with a small amount of multi-branched aliphatic hydrocarbons or an aromatic hydrocarbon solvent, it becomes possible to stabilize the emulsion and to control the size of the emulsion grains. Moreover, as for an aromatic hydrocarbon solvent, although it is easy to form a small amount of stable emulsion from a ketone, ester, or ether solvent, it tends to exhibit dissolvability to shells. Therefore, as the selection of an emulsifier is important, it is also important to select a solvent utilized for the complex in accordance with the type of the monomer used and the type of the water and/or moisture-retaining ingredient. In general, in order to obtain microcapsules that contain a (meth)acrylic ester or a nitrile-series /126 polymer as the shell-forming ingredient and a polyol as the inclusion, it is preferred that the above-described sorbitan fatty acid ester, polyoxyethylene sorbitan fatty acid ester, polyethyleneglycol fatty acid ester, or aliphatic monoglyceride be utilized as the emulsifier and that aliphatic lower hydrocarbons (n-hexane, petroleum ether, heptane, octane, ligroin, etc.) be utilized as the solvent.

The used amount of the solvent should preferably be 100 ~ 1000 weight parts, more preferably 200 ~ 500 weight parts, with respect to 100 weight parts of the water and/or water-soluble substance which will be the inclusion.

The polymerization of the monomer can be carried out by means of: an azobis-series polymerization initiator, such as 2,2′-azobis(4-methoxy-2,4-dimethylvaleronitrile), 2,2′-azobis(2,4-dimethylvaleronitrile), 1,1′-azobis(1-cyclohexanecarbonitrile), or azobisisobutylonitrile; or a peroxide-series polymerization initiator, such as diisopropylperoxydicarbonate or benzoylperoxide.

The used amount of the polymerization initiator should be 0.1 ~ 5 weight parts, more preferably 0.2 ~ 2 weight parts, for every 10.0 weight parts of the used monomer.

Although it also depends on the type of the catalyst, the polymerization temperature should normally be 40 ~ 90°C, specifically 40 ~ 50°C when using 2,2′-azobis(4-methoxy-2,4-dimethylvaleronitrile) or diisopropylperoxycarbonate and 70 ~ 90°C when using any other one of the above-described catalysts.

According to the invention, the above-described inorganic fine powder is made to be present when the above monomer is polymerized. This inorganic fine powder is very effective against aggregation/solidification of the microcapsules formed as a result of the polymerization of the monomer ingredient, and this makes it possible to obtain microcapsules containing water and/or a moisture-retaining ingredient which was very difficult

or impossible to achieve in the past.

Various methods can be utilized in order to obtain pressure-collapsible flexible resin capsules of the invention. The following methods can be mentioned as examples: a method in which water and/or a moisture-retaining ingredient and a medium are emulsified under the presence of an inorganic powder in advance and in which polymerization by way of agitation is made to occur while combining it with a monomer and a polymerization initiator; a method in which water and/or a moisture-retaining ingredient, a polymerization initiator, and a medium are emulsified and dispersed together under the presence of an inorganic fine powder and in which polymerization is made to occur while combining it with a monomer; and a method in which water and/or a moisture-retaining ingredient, a monomer, a polymerization initiator, and a medium are emulsified and dispersed together under the presence of an inorganic fine powder and in which this mixed [illegible] is polymerized by means of heating.

The agitation rate during the polymerization should preferably be 50 ~ 400rpm, more preferably 100 ~ 200rpm.

Next, the invention will be explained more in detail by mentioning manufacturing examples and embodiments, although the invention is not confined to these manufacturing examples or embodiments. All of the combined quantities are indicated in weight%.

[Manufacturing Example 1]

Pressure-collapsible flexible resin capsule containing polyethyleneglycol 200.

100g of polyethyleneglycol 200 (PEG 200), 100g of methyl methacrylate, and 0.5g of azobisisovaleronitrile were mixed together evenly (a monomer-inclusion solution). 1g of POE sorbitan monolaurate, 0.5g of glycerol monostearate, and 5g of ultrafine-grain anhydrous aluminum oxide were evenly mixed and dissolved in 300g of n-hexane, and after pouring the monomer-inclusion solution into the mixture, it was agitated at 5000rpm for 2 minutes. The obtained grain diameters were 10 ~ 20μm. Next, the mixture was transferred to a 4-way flask and was substituted with N_2. Reactions were allowed to occur for 6 hours under reflux.

As a result of filtering and drying the product, white powder was obtained. This consisted of pressure-collapsible flexible resin capsule with a 75% inclusion ratio.

[Comparative Example 1]

100g of polyethyleneglycol 200 (PEG 200), 100g of methyl methacrylate, and 0.5g of azobisisovaleronitrile were mixed together evenly (a monomer-inclusion solution). 1g of POE sorbitan monolaurate and 0.5g of glycerol monostearate were evenly mixed and dissolved in 300g of n-hexane, and after pouring the monomer-inclusion solution into the mixture, it was agitated at 5000rpm for 2 minutes. The obtained /127 grain diameters were 10 ~ 20μm. Next, the mixture was transferred to a 4-way flask and was substituted with N_2. Reactions were allowed to occur for 6 hours under reflux.

The microcapsules obtained in Manufacturing Example 1 and Comparative Example 1 were evaluated for the retaining properties (anti-solvent

retaining properties) of their inclusions inside various types of solvents.

. Table 1

Oil content / Capsules	Silicon oil	Liquid paraffin	Isobutyl myristate	Ethyl myristate
Manufacturing Example 1	o	o	o	o
Comparative Example 1	Δ	×	×	×

Evaluated after being stored for 24 hours at [illegible]°C.

o: No abnormality.

Δ: Inclusion discharged slightly.

×: Inclusion discharged in large quantities.

The pressure-collapsible flexible resin capsules of Manufacturing Example 1 of the invention had a superb inclusion-retaining ability and were very stable. As opposed to this, the microcapsules of Comparative Example 1 had markedly inferior inclusion-retaining abilities as indicated in Table 1.

[Manufacturing Example 2]

Manufacture of pressure-collapsible flexible resin capsules containing glycerin.

120g of glycerin and 1g of polyoxyethylene sorbitan monolaurate were mixed together evenly. 5g of Benton 27 (organic bentonite made by CI Chemical), 1g of sorbitan monooleate, 80g of methyl methacrylate and 0.4g of AIBN were dissolved and dispersed in 300ml of Exxon Naphtha No.3 (Exxon, aliphatic hydrocarbons made by Exxon). This was agitated by means of 8000 rotations over a 10-minute period in a homogenizer, and glycerin was dispersed until the emulsified grain diameters reached 10μm. Reactions

were allowed to occur for 20 hours at a temperature of 65 ~ 75°C.

As a result of filtering and drying the product, white pressure-collapsible flexible resin capsules containing glycerin were obtained. The inclusion ratio was 60% and the average grain diameter was 20μm.

[Manufacturing Example 3]

Manufacture of pressure-collapsible flexible resin capsules containing 1,3-butyleneglycol.

180g of 1,3-butyleneglycol, 1g of polyoxyethylene sorbitan monolaurate, and 1g of Organite (organic bentonite made by [illegible]) were mixed together evenly. 1g of sorbitan monooleate, 40g of methyl methacrylate, and 0.2g of AIBN were dissolved in 500ml of isooctane. This was agitated by means of 10,000 rotations over a 10-minute period in a homogenizer. After the diameters of the emulsified grains reached 5~10μm, reactions were allowed to occur for 20 hours at a temperature of 65 ~ 75°C. As a result of filtering and drying the product, white pressure-collapsible flexible resin capsules containing 1,3-butyleneglycol were obtained. The inclusion ratio was 70% and the average grain diameter was 8.5μm.

[Manufacturing Example 4]

Manufacture of pressure-collapsible flexible resin capsules containing water.

5g of oruben [as transliterated] (organic bentonite made by Shiraishi Calcium Co.), 0.5g of polyoxyethylene sorbitan monopalmitate, and 1g of sorbitan trioleate were dissolved and dispersed evenly in 500g of isooctane.

Next, 120g of water was stirred into it in 3,000 rotations over a 5-minute period in a homogenizer. As a result, a W/O emulsion having the average grain diameter of 10μm was obtained. Next, 0.4g of AIBN was dissolved in 40g of acrylonitrile and 40g of methyl methacrylate. The emulsion was placed in a 1*l* 4-way flask and was substituted with N_2. Then, the temperature was increased to 70°C, and a monomer was dripped into it over a period of about 30 minutes.

After 20 hours of further reactions at 70°C, the temperature was cooled down. As a result of filtering and drying the product, almost perfectly spherical pressure-collapsible flexible resin capsules containing water were obtained. As a result of drying the pressure-collapsible flexible resin capsules for 2 hours at 120°C and then measuring the remnant, 40% of the microcapsules had remained. The average grain diameter was 25μm and the inclusion ratio was 60%.

Next, the invention will be explained in more detail based on embodiments. Moreover, the performances of the cosmetics were subjected to 5-level evaluations by 15 dedicated panelists on the items indicated in the next table.

Table 2 /128

	Removability	Spreading	Feel of Adherence	Moistness	Clean feel	Long-lastingness
1	Poor	Poor	None	None	None	Poor
2	Slightly poor	Slightly poor	Slightly	Slightly	Slightly	Slightly poor
3	Average	Average	Average	Average	Average	Average
4	Slightly good	Slightly good	Some	Some	Some	Slightly good
5	Good	Good	Yes	Yes	Yes	Good

The evaluation results are indicated by using the following symbols based on the average values of 15 panelists.

◎ = 4.5 or higher and up to 5.0

○ = 3.5 or higher and less than 4.5

Δ = 2.5 or higher and less than 3.5

× = 1.5 or higher and less than 2.5

××= 1.0 or higher and less than 1.5

[Embodiment 1, Comparative Example 2]

From the following ingredients, 2-way powder foundations that could be used either dry or wet were prepared.

Table 3

		Embodiment 1	Comparative Example 2
1. Hydrophobing-treated mica		~100	~100
2. Hydrophobing-treated talc		15	15
3. Hydrophobing-treated titanium dioxide		20	20
4. Hydrophobing-treated iron oxide pigment (red, yellow, black)		2	2
5. Chinese white		3	3
6. Manufacturing Example 1 (microcapsules containing PEG 200)		10	-
7. Comparative Example 1 (microcapsules containing 200)		-	10
8. Dimethyl polysiloxane		6	6
9. Liquid paraffin		4	4
10. Diisostearyl malate		2	2
11. Sorbitan trioleate		1.5	1.5
12. Polyoxyethylene sorbitan monostearate		-	-
13. Antiseptic, perfume, UV absorber		adequately	adequately
Evaluation of usability	Removability	◎	Δ
	Spreading	◎	○
	Sense of adhesion	○	Δ
	Moistness	◎	×
	Clean feel (during use)	◎	×
	Long-lastingness	○	Δ
Evaluation of stability over time		◎	×

(Manufacturing Method)

The ingredients, 1 ~ 5, were blended together in a Henschel mixer, and mixtures obtained by heating and blending 9 ~ 14 were combined and blended with the first mixtures. The obtained mixtures were pulverized and 6 ~ 8 were then admixed to them. These were then mixed together well separately by means of a blender, were then sterilized, and were then molded by means of pressurization to prepare two-way powder foundations.

The two-way powder foundation (Embodiment 1) obtained by combining the invention's pressure-collapsible flexible resin capsules containing polyethyleneglycol 200 had a light feel to the touch and spread smoothly on the skin, and it also maintained a moist feel clearly different from that which would be obtained from oil as a result of the inclusion being released after the pressure-collapsible flexible resin capsules collapsed during the application of the cosmetic. Therefore, it generated a novel feel that provided the user with a sense of conditioning effect. Moreover, in a case in which water was used, the inclusion, PEG 200, was also released during the application, and its moisturizing effect sustained a clean feel well.

As opposed to this, the two-way foundation (Comparative Example 2) that contained the microcapsules of Comparative Example 1 felt heavy when spread, and the sense of moistness it gave was little in comparison to Embodiment 1, perhaps due to the inclusion having already been partially released.

Moreover, when the foundation of Comparative Example 2 was stored in a portable compact, its inclusion became discharged and evaporated,

clogging up the mirror with time. Moreover, it adsorbed the moisture from the air, causing the surface of the compact to swell up, or due to the same reason, it caused bacteria to grow and became deteriorated over time. In this manner, it had very poor stability. As opposed to this, the foundation of Embodiment 1 of the invention did not allow the inclusion to be discharged over time and had excellent stability.

[Embodiment 2, Comparative Example 3]

From the following ingredients, powder foundations which were to be used dry were prepared.

Table 4

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		Embodiment 2	Comparative Example 3
1. Sericite		~100	~100
2. Metal-soap-treated talc		20	20
3. Titanium dioxide		15	15
4. Iron oxide pigment (red, yellow, black)		3	3
5. Calcium carbonate		5	5
6. Pressure-collapsible flexible resin capsules of Manufacturing Example 2		10	-
7. Dimethyl polysiloxane		5	5
8. Liquid paraffin		5	5
9. Diglycerol di-2-ethylhexanate		2	2
10. Sorbitan monooleate		1.8	1.8
11. Glycerin		-	6
12. Antiseptic, perfume, UV absorber		adequately	adequately
Evaluation of usability	Removability	◎	×
	Spreading	○	Δ
	Sense of adhesion	◎	Δ
	Moistness	◎	○
	Long-lastingness	○	Δ
Evaluation of stability over time		◎	×

(Manufacturing Method)

The ingredients, 1 ~ 5, were blended together in a Henschel mixer, and mixtures obtained by heating and blending 7 ~ 12 were combined and blended with the first mixtures. The obtained mixtures were pulverized by means of a pulverizer, and 6 was then admixed to them. These were then

mixed together well separately by means of a blender, were then sterilized, and were then molded by means of pressurization at [illegible] to prepare powder foundations.

The thus-obtained powder foundation (Embodiment 1) combined with the invention's pressure-collapsible flexible resin capsules containing glycerin could be removed easily and spread smoothly, and yet it also provided the skin with a superb feel of adhesion and moistness as a result of glycerin being released after the pressure-collapsible flexible resin capsules collapsed during the application of the cosmetic. Therefore, it generated a novel sensation with an excellent effect for keeping the skin from being dry.

As opposed to this, Comparative Example 3 that was combined with glycerin by means of [illegible] without using pressure-collapsible flexible resin capsules of the invention had markedly poor removability and also induced caking. In addition, it felt heavy when spread, and the result of the overall evaluation of its usability was clearly inferior to the that of Embodiment 2.

Moreover, Comparative Example 2 showed significant deterioration of the [illegible] caused by volatilization or moisture absorption over time and had very poor stability.

[Embodiment 3, Comparative Example 4]

From the following ingredients, oil-based stick-type foundations which were prepared.

Table 5

		Embodiment 2	Comparative Example 3
1. Kaolin		~100	~100
2. Talc		5	5
3. Titanium dioxide		15	15
4. Iron oxide pigment (red, yellow, black)		4	4
5. China white		2	2
6. Pressure-collapsible flexible resin capsules of Manufacturing Example 2		8	-
7. Isopropyl palmitate		15	15
8. Liquid paraffin		25	20.2
9. Lanolin alcohol diglycerol		1.5	1.5
10. Microcrystalline wax		2	2
11. Ceresin		5	5
12. Carnauba wax		2	2
13. Sorbitan monooleate		1.2	1.2
14. Glycerin		-	4.8
15. Antiseptic, perfume, UV absorber		adequately	adequately
Evaluation of usability	Removability	◎	×
	Spreading	○	△
	Sense of adhesion	◎	△
	Moistness	◎	△
	Long-lastingness	○	△
Evaluation of stability over time		◎	×

(Manufacturing Method) /130

The ingredients, 1 ~ 5, were blended together in a Henschel mixer. Separately, the ingredients, 7 ~ 12, were blended together and were dissolved by means of heating at 80°C. After being dissolved, they were combined with the mixtures of the ingredients, 1 ~ 5, and were treated with rollers. After this, they were heated and dissolved again, were combined with the ingredient 6, and were slowly dispersed and blended by means of a propeller agitator. After the occurrence of defoaming, the ingredient 15 was combined with the mixtures, which were then poured into molds and were formed by means of cooling. The thus-obtained stick-type oil-based foundation combined with pressure-collapsible flexible resin capsules of the invention had excellent spreading and adhering properties, and glycerin that was released after the pressure-collapsible flexible

resin capsules collapsed during the application of the cosmetic suppressed the sticky sensation of oil. It also gave a novel feel with a moist sensation that lasted. As opposed to this, Comparative Example 4 had poor adhering and spreading properties, perspired significantly over time, and had very poor stability.

[Embodiment 4, Comparative Example 5]

From the following ingredients, O/W [illegible] emulsion foundations were prepared.

Table 6

		Embodiment 4	Comparative Example 5
1. Kaolin		5	5
2. Talc		3	8
3. Titanium dioxide		8	8
4. Iron oxide pigment (red, yellow, black)		4	4
5. China white		2	2
6. Pressure-collapsible flexible resin capsules of Manufacturing Example 3		5	-
7. Stearic acid		2	2
8. Glycerin monostearate		2.7	2.7
9. Cetostearyl alcohol		0.5	0.5
10. Isopropyl myristate		9	9
11. Squalane		3	3
12. Liquid lanolin		2	2
13. Refined water		~100	~100
14. Sodium carboxymethylcellulose		0.2	0.2
15. Keltrol		0.5	0.5
16. 1,3-butyleneglycol		-	3.5
17. Triethanolamine		1.0	1.0
18. Sodium hexametalate		0.1	0.1
19. Antiseptic		Adequately	Adequately
20. Perfume		Adequately	Adequately
Evaluation of usability	Removability	◎	Δ
	Spreading	○	Δ
	Sense of adhesion	◎	Δ
	Moistness	◎	○
	Long-lastingness	○	Δ
Evaluation of stability over time		◎	○

(Manufacturing Method)

The ingredients, 1 ~ 5, were blended together and pulverized thoroughly (powder part). Separately, the ingredient 13 was heated at 70°C, the ingredient 15 was combined with it, and the mixture was allowed to swell fully. This mixture was combined with the ingredients, 14 and 16 ~ 19, and these were mixed together well (water phase). The ingredients, 7 ~ 12, were blended together and dissolved by means of heating at 70 ~ 80°C (oil phase). The powder part was combined with the water phase, and the mixture was blended together under agitation by means of a homo mixer. After heating the mixture to 75°C, it was combined with the oil phase that had its temperature adjusted to 80°C under agitation, and the mixture was then emulsified by means of a homo mixer. After the emulsification, the ingredient 6 was combined with the mixture and was dispersed slowly. After that, the mixture was agitated and cooled down to 45°C, was then combined with the ingredient 20, and was cooled down to room temperature.

The thus-obtained emulsified foundation combined with the invention's pressure-collapsible flexible resin capsules spread easily and had a light feel, and yet it also provided the skin with a moist sensation as a result of 1,3-butyleneglycol being released after the pressure-collapsible flexible resin capsules collapsed during the application of the cosmetic. Therefore, it generated an unconventional sense of use. As opposed to this, Comparative Example 5 felt heavy while being spread, was sticky, and was not as long-lastingness as that of Embodiment 4.

[Embodiment 5]

From the following ingredients, a solid-type eyeshadow powder was prepared.

Table 7

Raw Material	Combination Ratio (%)
1. Talc	~100
2. Heat-treated mica	20
3. Titanium oxide	5
4. Coloring pigment	15
5. China white	3
6. Pressure-collapsible flexible resin capsules of Manufacturing Example 4	20
7. Liquid paraffin	5
8. Diisostearyl malate	3
9. Dimethyl polysiloxane (20CS)	3
10. Sorbitan monoisostearate	1
11. Antioxidant, perfume	Adequately

(Manufacturing Method) /131

The ingredients, 1 ~ 5, were mixed together well in a blender and were combined with 7 ~ 11, which had been blended together by means of heating at 75 ~ 80°C in advance. The resultant mixture was pulverized, was combined with pressure-collapsible flexible resin capsules of the ingredient 6, was blended thoroughly by means of a blender, was sterilized, and was then molded by means of pressurization.

The thus-obtained solid-type eyeshadow yielded a completely novel sensation that was lush and clean without being used wet as a result of the pressure-collapsible flexible resin capsules of the invention being collapsed during the application of the cosmetic with an applicator tip.

As a result of examining its long-term stability at 50°C, the volatilization of the water content inside the capsules was 1% or less with respect to the total amount of the pressure-collapsible flexible resin capsules after 1 month, which proved that its stability was

excellent.

[Effects of the Invention]

According to a cosmetic of the invention combined with pressure-collapsible flexible resin capsules in which water and/or a moisture-retaining ingredient is contained and the shells of which consist of a resin that is insoluble to said water or moisture-retaining ingredient and that contains inorganic fine powder, it is possible to combine large amounts of these ingredients stably and a moist sensation different from the moistness obtained from oil can be obtained as a result of the inclusions being released from the capsules that collapsed during the application of the cosmetic. Therefore, it is a cosmetic that gives a novel sensation with excellent skin-moisturizing properties and conditioning properties. According to the invention, since water and/or a moisture-retaining ingredient is contained inside pressure-collapsible flexible resin capsules, it does not become separated or perspire over time as in the past due to its affinity with oil contained in it, and the stability is excellent. Moreover, since pressure-collapsible flexible resin capsules of the invention have sufficient air-tightness, the inclusions will not become volatilized or flow out over time. Therefore, it is not necessary to use an airtight container even when they are combined with a powder product or the like. Furthermore, when they are combined with an emulsified product in particular, it is possible to combine a moisture-retaining ingredient by means of powder-form pressure-collapsible flexible resin capsules. Therefore, a cosmetic that feels light without conventional stickiness can be obtained even when

the moisture-retaining ingredient is combined in a large quantity.